

# Exhibit 4

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO. LTD., GOOGLE LLC,  
and SAMSUNG ELECTRONICS AMERICA, INC.,  
Petitioner,

v.

HEADWATER RESEARCH LLC,  
Patent Owner.

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IPR2024-00342  
Patent 8,406,733 B2

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Before HYUN J. JUNG, ROBERT J. WEINSCHENK, and  
GARTH D. BAER, and *Administrative Patent Judges*.

JUNG, *Administrative Patent Judge*.

DECISION  
Denying Institution of *Inter Partes* Review  
35 U.S.C. § 314

IPR2024-00342  
Patent 8,406,733 B2

## I. INTRODUCTION

### A. *Background and Summary*

Samsung Electronics Co. Ltd., Google LLC, and Samsung Electronics America, Inc. (collectively, “Petitioner”) filed a Petition (Paper 4, “Pet.”) requesting institution of an *inter partes* review of claims 1–24 and 26–30 of U.S. Patent No. 8,406,733 B2 (Ex. 1001, “the ’733 patent”). Headwater Research LLC (“Patent Owner”) filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). With our authorization, Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 11, “Prelim. Reply”), and Patent Owner filed a Preliminary Sur-Reply (Paper 13, “Prelim. Sur-reply”).

For the reasons below, we do not institute an *inter partes* review of claims 1–24 and 26–30 of the ’733 patent.

### B. *Real Parties in Interest*

Petitioner identifies Samsung Electronics Co. Ltd., Google LLC, and Samsung Electronics America, Inc. as real parties in interest. Pet. 79. Patent Owner identifies itself as the real party in interest. Paper 6, 2.

### C. *Related Matters*

The parties identify *Headwater Research LLC v. Samsung Elects. Co., Ltd.*, 2:23-cv-00103 (E.D. Tex.) as a related matter. Pet. 79; Paper 6, 2. Petitioner states that the parties “are also involved in case nos. 2:22-cv-00422 and 2:22-cv-00467, also in E.D. Tex.” Pet. 79. Patent Owner further identifies IPR2024-00341 as a related matter. Paper 6, 2. A related patent is challenged in IPR2024-00010.

### D. *The ’733 Patent (Ex. 1001)*

The ’733 patent issued on March 26, 2013 from an application filed on May 1, 2012 that is a continuation of an application filed on March 2, 2009 and claims priority to four provisional applications, the earliest of

IPR2024-00342

Patent 8,406,733 B2

which was filed on January 28, 2009. Ex. 1001, codes (22), (45), (60), (63), 1:7–21.

The '733 patent describes “[d]evices and methods for receiving control-plane communications from a network element over a secure service control link.” Ex. 1001, code (57).

The network element includes a service control server link element that is communicatively coupled to a plurality of servers. The device includes a plurality of device agents communicatively coupled to a service control device link agent through an agent communication bus. The service control device link agent receives an encrypted agent message from the service control server link element over the secure service control link, uses an encryption key to obtain a decrypted agent message comprising a particular agent identifier and message content for delivery to the particular device agent, and, based on the particular agent identifier, delivers the message content to the particular device agent over the agent communication bus.

*Id.*

#### *E. Illustrative Claim*

The '733 patent includes 30 claims, of which Petitioner challenges claims 1–24 and 26–30. Of the challenged claims, claims 1 and 30 are independent, and claim 1 is below reproduced.

1. An end-user device comprising:
  - a modem for enabling communication with a network system over a service control link provided by the network system over a wireless access network, the service control link secured by an encryption protocol and configured to support control-plane communications between the network system and a service control device link agent on the end-user device;
  - a plurality of device agents communicatively coupled to the service control device link agent through an agent communication bus, each of the plurality of device agents identifiable by an associated device agent identifier; and

IPR2024-00342

Patent 8,406,733 B2

memory configured to store an encryption key, the encryption key shared between the service control device link agent and a service control server link element of the network system;

wherein the service control device link agent is configured to:

receive, over the service control link, an encrypted agent message from the service control server link element,

using the encryption key, obtain a decrypted agent message, the decrypted agent message comprising a particular agent identifier and message content for delivery to a particular device agent of the plurality of device agents, the particular agent identifier identifying the particular device agent, the message content from a particular server of a plurality of servers communicatively coupled to the service control server link element, and

based on the particular agent identifier, deliver the message content to the particular device agent over the agent communication bus.

Ex. 1001, 163:47–164:12.

*F. Asserted Prior Art and Proffered Testimonial Evidence*

Petitioner identifies the following references as prior art in the asserted grounds of unpatentability:

Name	Reference	Exhibit
Ogawa	US 8,195,961 B2, issued June 5, 2012	1005
Houghton	WO 2006/077283 A1, published July 27, 2006	1006
Hwang	EP 1 909 463 A1, published Oct. 16, 2006	1007

Petitioner contends that Houghton is prior art under § 102(b) and that Ogawa and Hwang are prior art under §§ 102(a) and 102(e).<sup>1</sup> Pet. 1 (citing Ex. 1003

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<sup>1</sup> The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (Sept. 16, 2011), took effect on March 16, 2013. Because the ’733 patent issued from an application filed before that date, our citations to 35 U.S.C. §§ 102 and 103 in this Decision are to their

IPR2024-00342  
Patent 8,406,733 B2

¶¶ 1–47, 239–424). Petitioner also provides a Declaration of Dr. Patrick G. Traynor. Ex. 1003.

*G. Asserted Grounds*

Petitioner asserts that claims 1–24 and 26–30 are unpatentable on the following grounds:

Claims Challenged	35 U.S.C. §	References/Basis
1, 2, 5, 7–10, 13–15, 19–22, 26–30	103(a)	Houghton, Ogawa
3, 4, 6, 11, 12, 16–18, 23, 24	103(a)	Houghton, Ogawa, Hwang

Pet. 1.

## II. ANALYSIS

Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc. (collectively, “Samsung”) and Google LLC (“Google”) also challenge the ’733 patent in IPR2024-00341. Paper 3, 1; Paper 6, 1. Petitioner ranks the Petition in IPR2024-00341 ahead of the present Petition. Paper 3, 1.

Petitioner contends that instituting both IPR2024-00341 and this proceeding “is justified.” Paper 3, 5. Patent Owner responds that we should use our discretion to deny institution of this proceeding because a parallel petition challenging the same patent has been presented. Prelim. Resp. 1–10; Prelim. Sur-reply 1–5.

“Based on the Board’s experience, one petition should be sufficient to challenge the claims of a patent in most situations.” Consolidated Trial

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pre-AIA versions. *See also* Pet. 5 (stating that “[t]he ’733 Patent claims priority to a provisional application filed January 28, 2009 (‘Critical Date’)).

IPR2024-00342

Patent 8,406,733 B2

Practice Guide (Nov. 2019) (“CTPG”)<sup>2</sup> 59. “Two or more petitions filed against the same patent at or about the same time (e.g., before the first preliminary response by the patent owner) may place a substantial and unnecessary burden on the Board and the patent owner and could raise fairness, timing, and efficiency concerns.” *Id.*

“Nonetheless, the Board recognizes that there may be circumstances in which more than one petition may be necessary, including, for example, when the patent owner has asserted a large number of claims in litigation or when there is a dispute about priority date requiring arguments under multiple prior art references.” *Id.*

Petitioner argues that “the large number of asserted claims in litigation against Petitioner Samsung makes an IPR challenge using a single petition especially challenging.” Paper 3, 3. According to Petitioner, “Patent Owner has asserted a large majority of these claims (claims 1–14, 19, 21–24, 26, 29, and 30) against Petitioner Samsung, and has reserved its right to later assert any currently-unasserted claims against Petitioner Samsung.” *Id.* (citing Ex. 1021 (Plaintiff Headwater Research LLC’s Disclosure of Asserted Claims and Infringement Contentions), 2); *see also* Prelim. Reply 3–4 (arguing similarly). Petitioner notes that “Petitioner Google is not a party to the litigation brought by Patent Owner” and that all thirty claims of the ’733 patent may be asserted against Google. *Id.*

“Patent Owner stipulates that if institution is denied in this proceeding, it will not file suit against petitioner Google alleging infringement of the ’733 Patent, and it will likewise not assert any additional

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<sup>2</sup> Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

IPR2024-00342

Patent 8,406,733 B2

claims against petitioner Samsung in the pending parallel litigation.”

Prelim. Sur-reply 3.

In view of Patent Owner’s clear stipulation that it will not assert any additional claims of the ’733 patent against Samsung, and that it will not assert the ’733 patent against Google, Petitioner’s arguments regarding the large number of claims asserted in litigation fails to show that more than one petition is necessary. Paper 3, 3–4; Prelim. Reply 2–4; CTPG 59.

Furthermore, all of the claims asserted in related litigation (claims 1–14, 19, 21–24, 26, 29, and 30) are addressed in IPR2024-00341. Paper 3, 3; Ex. 1021, 2. Petitioner’s arguments that certain *dependent* claims are reached only in this proceeding, but not in IPR2024-00341, also fail to show that more than one petition is necessary. Paper 3, 4 (“Specifically, claim 25 is only challenged in the [IPR2024-00341] Petition, and claims 18, 20, and 28 are only challenged in the [present] Petition.”); Prelim. Reply 4–5. None of dependent claims 18, 20, or 28 is being asserted in related litigation, and Patent Owner stipulates not to add any additional claims to its infringement contentions if institution is denied here. Prelim. Sur-reply 3. Thus, Petitioner’s arguments that the present Petition reaches dependent claims 18, 20, and 28, which are not reached in IPR2024-00341, insufficiently shows that more than one petition is necessary. *See* CTPG 59.

Petitioner also argues that the public availability of the primary reference (“TS-23.140”) used in IPR2024-00341 “is open to challenge by Patent Owner.” Paper 3, 1–2. “Patent Owner stipulates that if institution is denied in this proceeding, Patent Owner will **not** challenge the public availability of the TS-23.140 specification in the -00341 proceeding.”

Prelim. Resp. 4.



IPR2024-00342

Patent 8,406,733 B2

In view of Patent Owner’s additional, express stipulation that it will not challenge the public availability of TS-23.140, Petitioner fails to show that more than one petition is necessary. Paper 3, 1–2; CTPG 59, 61 (“If stating that issues are not material or in dispute, the patent owner should clearly proffer any necessary stipulations. For example, the patent owner may seek to avoid additional petitions by proffering a stipulation that certain claim limitations are not disputed or that certain references qualify as prior art.”).

Petitioner further argues that the present Petition relies on a different type of primary reference and different art combinations than those in IPR2024-00341. Paper 3, 1–3. Petitioner, though, does not explain specifically why “challeng[ing] the claims from different perspectives” demonstrates that more than one petition is necessary. *See id.* Further, we agree with Patent Owner that there is substantial overlap in the art and art combinations, such as the substantially similar reliance on Ogawa in both proceedings. Prelim. Resp. 5–7; *see also* Paper 3, 5 (stating that “Petitioners have purposefully used the same secondary reference (Ogawa) in a similar manner in both petitions” with “similar motivations to combine these secondary references with the respective primary references” and that “Petitioners are presenting only two petitions, with each relying on different primary references, but the same secondary reference (Ogawa) that is applied in the presented combinations in a similar manner”). Given the substantial overlap in the art asserted, Petitioner’s arguments regarding different primary references and art combinations fail to show that more than one petition is necessary. *See* CTPG 59.

IPR2024-00342  
Patent 8,406,733 B2

### III. CONCLUSION

After considering the parties' submissions, we exercise our discretion under 35 U.S.C. § 314(a) to deny institution. CTPG 61.

### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that that the Petition is denied, and no *inter partes* review is instituted.

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